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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,636	10/22/2003	Mitsuhiro Kawasaki	243949US8CONT	4055
22850	7590	11/12/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			LEPISTO, RYAN A	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/689,636

Applicant(s)

KAWASAKI ET AL.

Examiner

Ryan Lepisto

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. 10/689,636.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 5-6 and 9-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Berkey et al (US 2003/0086667 A1)** (Berkey). Berkey teaches an optical fiber transmission system, which inherently can consist of a plurality of optical fibers, comprising an optical fiber that has the following properties:

Dispersion at 1560 nm	Dispersion Slope at 1550 nm	Transmission attenuation at 1550 nm	Effective core area at 1550 nm
Less than or equal to 22 ps/nm-km (paragraph 0066)	0.045-0.075 ps/ nm ² – km (paragraph 0067)	Less than or equal to 0.2 dB/km (paragraph 0065)	90-115 μm ² (paragraph 0062)

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

2. **Claims 7 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey as applied to claims 5-6 and 9-10 above, and further in view of **Terasawa et al (Us 5,822,488)** (Terasawa).

Berkey teaches the optical fiber with the limitations described above used to reject claims 5-6 and 9-10 above.

Berkey does not teach expressly a fiber with a center and side core portion wherein a relative refractive index difference $\Delta 1$ of the center portion with respect to the clad portion and a relative refractive index difference $\Delta 2$ of the side portion with respect to the clad portion are both positive and satisfy the inequality $\Delta 1 > \Delta 2$.

Terasawa teaches an optical fiber (Fig. 22) with a center core region (150) and side core region (160) and a clad region (250) where $\Delta 4$ is the relative refractive index difference between the center core region and clad portion and $\Delta 5$ is the relative refractive index difference between the side core region and clad portion, wherein $\Delta 4 > \Delta 5$.

Berkey and Terasawa are analogous art because they are from the same field of endeavor, graded index optical fibers.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Berkey to include the two core regions with the refractive index inequality satisfied as taught by Terasawa.

The motivation for doing so would have been to increase the fiber's efficiency and the number of systems the fiber can be used in by reducing the dispersion slope over a wide wavelength range (Terasawa, column 22 lines 19-21).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Lepisto whose telephone number is (571) 272-1946. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ryan Lepisto

Art Unit 2883

Date: 11/2/04



Frank Font

Supervisory Patent Examiner

Technology Center 2800